

# Plant Specialized Metabolism

## Genomics, Biochemistry, and Biological Functions

Recent advances in science have clarified the role of plant specialized metabolites (classically known as plant secondary metabolites), which cannot be considered only bioactive molecules used for human health but also pivotal factors for the global ecosystem. They play major roles in plant life, evolution, and mutualism. To provide the reader a general view of plant specialized metabolites, it is important to consider both the biochemistry and the functional/ecological role of these important compounds.

Around 200,000 specialized metabolites are formed by a wide array of plant metabolic pathways from numerous plant taxa and through learning how other species (including human beings) rely on them. ***Plant Specialized Metabolism: Genomics, Biochemistry, and Biological Functions*** will provide the reader with special insights into the sophisticated nature of these metabolites and their various and valuable uses based on the most recent findings in science.

### Features:

- Includes topics on a broad spectrum of plant specialized metabolites
- Describes several aspects of metabolism and function of plant specialized compounds
- Reports on case studies from both lab and field observations
- Provides the reader an at-a-glance view of the spectacular biodiversity of plant specialized metabolite biochemistry and functionality, including plant interactions and plant mutualisms
- Gives a modern view of specialized metabolites from an ecological as well as biotechnological point of view

The field of plant specialized metabolism has witnessed tremendous growth in the past decade. This growth has had a profound impact on multiple disciplines in life science, including biochemistry, metabolism, enzymology, natural product chemistry, medicinal chemistry, chemical ecology, and evolution. It also has yielded valuable knowledge and technology readily applicable in various industries, such as agriculture, horticulture, energy, renewable chemicals, and pharmaceuticals. The book focuses on the molecular background of secondary metabolite biosynthesis, their functional role, and potential applications.

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